direction on the night of the 22d and morning of the 23d while decreasing its rate of progress. Then in the afternoon of the 23d and on the 24th it remained almost stationary near 130° longitude E. and 16° latitude N. On the 25th it began to move westward and so rapidly that from 2 p. m. of the 25th to 6 a. m. of the 26th its rate of progress was about 26 miles per hour, a very extraordinary velocity for our latitude. This was the more remarkable because while crossing Luzon with such a velocity it was only a shallow depression of no great importance.

The center of the depression passed about 80 or 90 miles to the north of Manila in the early morning of the 26th moving west. Once in the China Sea it increased again in intensity and took a southwesterly direction, until it probably filled up on the 29th not far from 110° longitude E. and 8° latitude N.

The second typhoon of the month was shown for the first time by our weather maps at 6 a. m. of the 28th near 132° or 133° longitude E. and 10° latitude N. It moved west by north and traversed the Visayan Islands on the 29th through southern Samar, northern Leyte and northern Panay. After passing between Mindoro and Cuyo in the early morning of the 30th it inclined somewhat to the north, and at the time we are writing these notes (December 2), the center is still over the China Sea, about 300 miles to the west of Luzon and to the east-southeast of the Paracels, moving very slowly and possibly with a tendency to incline still more to the north.

We may add that at the end of the preceding month of October a typhoon was noticed moving northward about 150 or 200 miles to the east of Luzon, and that it recurved northeastward on the 31st of October to the east of Balintang and Bashi Channels. The position of the center at 6 a. m. of October 31 to November 2 was as follows:

October 31, 6 a. m., 20° 50′ latitude N., 125° 45′ longitude E.
November 1, 6 a. m., 25° 50′ latitude N., 131° 10′ longitude E.
November 2, 6 a. m., 35° latitude N., 145° longitude E.

DETAILS OF THE WEATHER IN THE UNITED STATES

GENERAL CONDITIONS

By ALFRED J. HENRY

The outstanding feature of the month was the establishment on the 13th of anticlyconic conditions over the Great Basin and the continuance of these conditions with but little change until the close of the month.

Another way of expressing this fact is to say that on the 13th a pronounced flow of cold polar air descended from the Canadian Northwest upon the northern Rockies and the Great Basin. This mass of cold air must have extended upward to a considerable altitude, since instead of skirting the eastern slope of the mountains it overrode them and settled over the Great Basin as before stated. From that region as a pivoted point detached masses of cold air moved southeastward on various subsequent dates overflowing the Gulf States and the lower Mississippi Valley, thus preventing the development in or the movement of cyclonic systems through that region.

This pressure distribution—high centered over the Great Basin with high though diminishing pressure thence southeastward—was effective in preventing precipitation in southern and central California and particularly in the Gulf States and lower Mississippi Valley.

The month as a whole must be classed as fairly warm and dry. The usual details follow.

CYCLONES AND ANTICYCLONES

By W. P. DAY

There was a marked increase of weather activity during November as compared with October, at least over the United States. This is shown in part by the charting of 19 well-developed LOWS against 14 during the preceding month and 15 HIGHS compared with 11. There were no HIGHS of the Hudson Bay type, which with others were effective during October in holding up and deflecting the normal movement of LOWS. The plateau HIGH was well developed during the latter half of the month and the LOWS made a corresponding shift from the North Pacific to the Alberta type or to developments east of the Rockies

FREE-AIR SUMMARY

By V. E. JAKL

In the upper-air averages for the month there were no important departures in any of the weather elements, except that all stations showed a decidedly stronger wind movement than usual throughout the vertical extent of the observations. (See Tables 1 and 2.) Temperature departures for all altitudes observed over the region represented by kite observations were substantially the same as those for the surface (see Chart III), the departures being as a rule quite uniform with altitude and generally positive and of small value. At Due West and Royal Center the temperature at all levels was normal to slightly below normal, as distinguished from the higher than normal temperature at all the other stations. The tables of average relative humidity and vapor pressure for the different stations show no important features, except as they indicate a general slightly drier condition aloft than is normal for the month.

Winds were practically normal in direction for all levels, the upper air resultants for the month determined from kite and pilot balloon observations over the middle and eastern portions of the country showing a general westerly drift. Above 1,000 meters there was a slight but general and definite northerly component to the winds over most stations, while in the levels embraced by the first thousand meters above sea level an average movement from about southwest was prevalent. This general westerly tendency of the winds probably extended to the Pacific coast, as pilot balloon observations at San Francisco gave resultant winds from approximately northwest to a considerable altitude.

Except over Key West and San Juan, winds aloft having an easterly component were almost entirely absent, one or two observations each of easterly winds at high altitudes being reported from Groesbeck, Memphis, and San Francisco. Over Key West and San Juan, the resultants of pilot-balloon observations showed deep northeasterly and southeasterly winds respectively.

The principal characteristic of the wind records is the frequency with which strong upper-air winds occurred,